

REMARKS

Preliminary Matters

In the previous amendment (C) mailed August 14, 2001, through inadvertent error an amended claim 7 was presented. However, claim 7 had been canceled by the prior amendment (B) mailed December 21, 2000. Accordingly, we are again canceling claim 7.

The "Office Action Summary" sent on November 6, 2001 appears to contain some errors also. While it identifies claims 1-6, 8-31, and 34-80 as pending, it mistakenly identifies the withdrawn claims, stating that claims 6-15, 36 and 37 are withdrawn. However, claims 6 and 8 are definitely elected claims that are not withdrawn from consideration, and indeed they were specifically rejected in paragraph 5 of the Final Rejection. Moreover, they are identified on the summary next to box #6 as among the rejected claims. A clerical correction may therefore be necessary to ensure that these claims are not inadvertently dropped.

In the present amendment, we propose to cancel several claims and amend some other claims to meet the Examiner's objections to them.

Double Patenting

With respect to the double patenting rejection (Paragraph 1 of the Detailed Action), claims 1-6, 16-31, 34-35, 38-65 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 9-39 of co-pending Application No. 09/064,176. As the Examiner rejects, the present invention and the '176 application claim the insulating layer comprising a light absorbing layer.

However, the position of the insulating layer is different in these applications. The present invention claims the insulating layer embedded in a contact portion at which a pixel electrode

electrically is contacted with a switching element, for example as shown in Figs. 1A through 1C. Claim 1, for example, recites, “an insulating layer is embedded in a recess portion provided at the contact portion ...”

On the other hand, the '176 application claims the insulating layer embedded between pixel electrodes, for example as shown in Fig. 1C of the '176 application.

Therefore, since the claims do not cross read, we submit that this rejection should be withdrawn.

Section 112 Rejections

Claims 22, 54, 60 are rejected (Para. 2 of the Detailed Action) under 35 U.S.C. 112, second paragraph. Claim 22 for example is based on claim 16 and specifies that the interlayer insulating film comprises an organic resin. Claim 16 is an independent claim which recites an “interlayer insulating film.” Hence there is no inconsistency between claim 22 and its parent claim.

Likewise there is no inconsistency between claim 54 (“interlayer insulating film comprises an organic resin”) and its parent claim 42 which recites “at least one interlayer insulating film.” Claim 42 also recites “a light absorbing insulating material ...” but that is not the antecedent to which claim 54 points.

Finally, dependent claim 60 specifies that the “interlayer insulating film” of its parent claim 48 “... comprises an organic resin.” Parent claim 48 is independent and like claim 42 recites both “at least one interlayer insulating film...” and “a light absorbing insulating material ...”

In the Final Rejection, the Examiner states, “[The] independent claims recite the insulating layer being a light absorbing layer” and the Examiner avers that there is some inconsistency in the claims. This rejection is respectfully traversed. In independent claims 42 and 48, the claims specify the light absorbing insulating material as a claim element, but the dependent claims now being rejected further specify something else in the parent claims -- the interlayer insulating film.

In claim 16 there is also an explicit recital of a light absorbing insulating material. The dependent claim 22 being rejected does not modify that structure and thus is not inconsistent with its parent claim.

Applicants thus respectfully ask that this rejection be withdrawn for these claims.

Claims 30-31. The rejection of claims 30-31 also overcome by the present amendment. The §112 rejection here is for incompleteness. In response to this rejection, applicants propose to amend the parent claims 2 and 3 to recite the features mentioned by the Examiner.

The Art Rejections

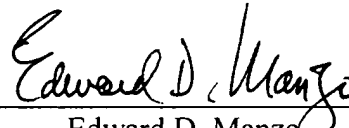
With respect to rejection under 35 U.S.C. 102(e) and 103(a), applicants propose to amend the claims to add the limitation indicated by the “Examiner's responses to Applicant's only arguments,” subpart (2), as stated at page 6 in the Final Rejection. This limitation, a light absorbing organic resin with a pigment or carbon-based material, is recited in claims 38-41 and 46-47.

Applicants submit that the amendments overcome the pending art rejections under 35 U.S.C. 102(e) and 103(a).

Conclusion

The present amendment (1) is believed not to add new matter, (2) is responsive to the issues raised in the Final Rejection, and (3) applicants respectfully submit, places the claims in condition for allowance. Applicants therefore earnestly solicit favorable action.

Respectfully submitted,

A handwritten signature in cursive script that reads "Edward D. Manzo". The signature is written in dark ink and is positioned above a horizontal line.

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Appendix – claim amendments with underscoring and bracketing

1. (Three Times Amended) A display device comprising a pixel matrix circuit constituted by a plurality of pixels each including at least one TFT and a pixel electrode connected to the TFT, wherein:

a contact portion for electrical connection to the TFT is disposed at a part of the pixel electrode; and

an insulating layer is embedded in a recess portion provided at the contact portion,
wherein the insulating layer comprises a light absorbing layer comprising a resin in which a pigment or a carbon-based material is contained.

2. (Three Times Amended) A display device comprising a pixel matrix circuit constituted by a plurality of pixels each including at least one TFT and a pixel electrode connected to the TFT, wherein:

the pixel electrode includes a lamination structure of a first metal layer and a second metal layer; and

an insulating layer is put between the first metal layer and the second metal layer at a contact portion where the first metal layer is connected with the TFT,

wherein the insulating layer comprises a light absorbing layer comprising a resin in which a pigment or a carbon-based material is contained.

3. (Three Times Amended) A display device comprising a pixel matrix circuit constituted by a plurality of pixels each including at least one TFT and a pixel electrode connected to the TFT, wherein:

the pixel electrode includes a lamination structure of a first metal layer and a second metal layer;

an insulating [film] layer is embedded in a recess portion disposed on the first metal layer; and

the second metal layer is disposed so as to cover the first metal layer and the insulating film,

wherein the insulating layer comprises a light absorbing layer comprising a resin in which a pigment or a carbon-based material is contained.

8. (Twice Amended) An electronic equipment comprising a[n electrooptical] display device according to claim 1 as a display.

16. (Amended) An electronic device having at least one active matrix type liquid crystal panel, said liquid crystal panel comprising:

a substrate having an insulating surface;

an active matrix circuit formed over said substrate comprising a plurality of pixel electrodes, a plurality of switching elements for switching said pixel electrodes, respectively, an interlayer insulating film formed over said plurality of switching elements wherein each of said plurality of pixel electrodes is formed on said interlayer insulating film and electrically connected to the respective switching element through a contact hole of said interlayer insulating film; and

a driving circuit comprising a plurality of thin film transistors formed over said substrate for driving said active matrix circuit,

wherein a depression of said pixel electrode formed over said contact hole is filled with a light absorbing insulating material,

wherein the light absorbing insulating material comprises a resin in which a pigment or a carbon-based material is contained.

42. (Amended) An electronic device having at least one active matrix type display device comprising:

at least one switching element;

at least one interlayer insulating film formed over said switching element;

a pixel electrode formed on said interlayer insulating film and electrically connected to said switching element through a contact hole of said interlayer insulating film;

a light absorbing insulating material formed in a depression of said pixel electrode over said contact hole,

wherein the light absorbing insulating material comprises a resin in which a pigment or a carbon-based material is contained.

48. (Amended) An electronic device having at least one active matrix type display device comprising:

at least one switching element;

at least one interlayer insulating film formed over said switching element;

a pixel electrode formed on said interlayer insulating film and electrically connected to said switching element through a contact hole of said interlayer insulating film;

a light absorbing insulating material formed in a depression of said pixel electrode over said contact hole,

wherein said insulating material [contains a carbon-based material] is a light absorbing material comprising a resin in which a pigment or a carbon-based material is contained.